

CONTENTS OF VOLUME I

	Page
List of Participants	XVII
Opening Speeches	XXV
Special Audience at the Vatican	XXIX
Reception at the Capitol	XXXVII
Reception at Villa Aldobrandini	XXXXIX

NEUTRAL BEAM HEATING

INVITED PAPERS

Stäbler A., Wagner F., Becker G. et al. Energy confinement scaling of ASDEX L- and H-discharges	3
Overskei D.O., Armentrout C.J., Bauer J.F. et al. High power neutral beam heating on Doublet III	21
Fonck R.J., Beirsdorfer P., Bell M. et al. H-mode studies in PDX	37
White R.B., Chen L., Hay R. Modelling the fishbone instability in PDX	57
Wootton A.J., Bell J.D., Bush C.E. et al. Balanced beam injection in ISX-B	69

CONTRIBUTED PAPERS

Penningsfeld F.-P., Lister G.G., Ott W. et al. Deposition of neutral beam impurities in the stellarator W7A and W7AS	89
--	----

Ott W., Dorst D., Elsner A. et al. CO and counter-injection heating in W7A stellarator	95
Cottrell G.A., Lomas P.J., May A.B. et al. Analysis of high-beta, neutral-beam heated discharges in Dite tokamak	105
Buchenauer D., Hwang D.Q., Mcguire K. et al. MHD effects on beam ion loss during near perpendicular neutral beam injection	111

ALFVEN AND SLOW WAVE HEATING

INVITED PAPERS

Mahajan S.M., Bengtson R.D., Evans T.E. et al. Global Alfvén eigenmodes, theory and experiment	121
Hollenstein Ch., de Chambrier A., Collins G.A. et al. Alfvén wave heating on TCA	137

CONTRIBUTED PAPERS

Lehane J.A., Brennan M.H., Cross R.C. et al. Antenna loading studies for Alfvén wave heating on TORTUS	153
Cap F.F. Propagation of electromagnetic waves in anisotropic homogeneous and isotropic inhomogeneous plasmas con- tained in toroidal vessels of arbitrary cross section	159
Bures M. Antenna spectrum effects on the efficiency of Alfvén wave excitation	165
Collins G.A., Appert K., de Chambrier A. et al. Discontinuous heating behaviour observed in the TCA tokamak and its interpretation in terms of the Alfvén wave spectrum	171

Joye B., de Chambrier A., Collins G.A. et al.	
Alfvén wave heating results in TCA using coated bar antennae	179
Knox S.O. Spencer R.L., Tataronis J.A. et al.	
Calculations for shear Alfvén wave heating of spheromaks	187
Pochelon A., de Chambrier A., Collins G.A. et al.	
Non-linear antenna loading measurements in TCA	193
Yousef N., de Kluiver H.	
Additional plasma heating by weak turbulence in the Torur III tokamak	201

ION CYCLOTRON HEATING

INVITED PAPERS

Weynants R.R.

Review of new theoretical results on ion-cyclotron resonance heating	211
--	-----

Odajima K., Matsumoto H., Kimura H. et al.

Second harmonic ICRF heating experiment in the JFT-2M tokamak	243
---	-----

Hosea J., Bell R., Budny R. et al.

PLT ion cyclotron range of frequencies heating program	261
--	-----

Adam J., Equipe TFR

ICRF heating in TFR in conditions of low impurity radiation	277
---	-----

CONTRIBUTED PAPERS

Bhatnagar V.P., Koch R., Weynants R.R. et al.

Optimization of ICRH power-deposition profiles in Intor tokamak by k_{\parallel} -shaping	291
---	-----

Messiaen A.M., Evrards M.P., Koch R., et al.

Array of ICRH antennae and k_{\parallel} spectrum shaping	303
---	-----

Messiaen A.M., Koch R., Bhatnagar V.P. et al.	
Analysis of the plasma edge radiation by ICRH antenna	315
Durodie F., Faulconer D.W., Messiaen A.M. et al.	
Simulation of the excitation of coaxial modes by an ICRH antenna on a laboratory model	331
Kang Shou-Wan	
Absorption of ion cyclotron wave by plasma	339
Cattanei G.	
Mode conversion and wave damping in a two-ion component toroidal plasma near the ion cyclotron frequency	343
Brambilla M., Steinmetz K.	
Ray tracing for first harmonic ion cyclotron resonance heating in ASDEX	351
Cotsattis M.	
Ion cyclotron wave heating from exterior (weak field) side in tokamaks	357
Cox M., Start D.F.H.	
Enhancement of beam current drive by ICRF waves	371
Hellsten T., Appert K., Villard L. et al.	
Absorption and mode conversion for IC-waves in monuniform plasmas	377
Clark W.H.M., Equipe TFR	
Measurement of emission in the ion cyclotron frequency range for ohmic and ICRH discharges in TFR	385
Lallia P.P., Clark W.H.M., Jacquinot J. et al.	
Possible ICRF heating modes of operation in non active JET plasma	393
Itoh Sanae-Inoue, Fukuyama Atsushi, Itoh Kimitaka	
Kinetic analysis of ICRF wave propagation and absorption	399

Itoh Sanae-Inoue, Fukuyama Asushi, Goto Akira et al.	
Three-dimensional study of coupling efficiency of ICRF Wave heating - Antenna launcher and wave guide launcher	407
Shoji T., Tsuboi F., Takasugi K. et al.	
ICRF wave propagation and heating studies in Nagoya bumby torus	413
Watari T., Ono M., Ando R. et al.	
Ion Bernstein wave heating experiment by the use of Nagoya Type-III coil	419
Scharer J., Jacquinot J., Lallia P. et al.	
Fokker-Planck calculations for JET ICRF heating scenarios	427
Molvik A.W., Cummins W.F., Falabella S. et al.	
ICRF heating in the tandem mirror experiment-upgrade (TMX-U)	433
Morales G.J., Antani S.N., Fried B.D.	
Generation of Bernstein modes from noise fluctuations during ICRF heating	439
Bosia G., Jacquinot J., Lallia P.P. et al.	
JET ICRF antenna coupling and real-time impedance matching	445
Tennfors E.	
Two-ion mode conversion layers in JET	451
Perkins F.W., Phillips C.K., Whang D.Q.	
Improved model for fast wave propagation in tokamaks	457
Bers A., Fuchs V., Harten L.	
On the theory of mode-conversion in inhomogeneous plasma	463
Anderson D., Lisak M.	
Particle losses due to RF-enhanced pitch angle scattering into velocity space loss regions	470
Stepanov K.N., Kaladze T.D., Pyatak A.I.	
Peculiarities of ion cyclotron resonance for fast magnetosonic waves in tokamaks	476

Stepanov K.N., Longinov A.V.

Cyclotron absorption of fast magnetosonic waves by heavy admixture ions

489

LOWER HYBRID HEATING AND CURRENT DRIVE

INVITED PAPERS

Eckhart D., Leuterer F., Münich M. et al.

Lower hybrid experiments in ASDEX

501

Stepanov K.N., Shvets O.M., Dikij A.G. et al.

RF production and heating of plasma in Uragan-3 torsatron

513

Porkolab M., Lloyd B., Schuss J.J. et al.

Lower hybrid experiments at the 1 MW level on Alcator C:
heating and current drive

529

De Marco F., Alladio F., Crisanti F. et al.

Lower hybrid heating experiments on FT

546

Van Houtte D., Agarici G., Blanc P. et al.

Lower hybrid heating and current drive on Petula-B

554

Chu T.K., Bell R., Bernabei S. et al.

Current ramp-up and plasma formation in the PLT tokamak
by lower hybrid waves

571

Canobbio E., Croci R.

Progress in lower hybrid current drive and heating
theory

583

CONTRIBUTED PAPERS

Wegrowe J.G., Engelmann F., Tonon G.

The critical density in lower-hybrid current drive
experiments interpreted as due to the switch-over to
dominant wave-ion interaction

593

Wegrowe J.-G., Tonon G.

Comparison of ion heating efficiency in lower-hybrid
experiments with theoretical expectations

601

Sergeev A.M., Litvak A.G. Nonlinear effects at high-frequency plasma heating	607
Cano R., Nowak S., Zanfagna B. et al. Non thermal electron cyclotron emission in the FT and TFR tokamaks with RF heating	619
Melin G., How J.A., Girard A. et al. Disruptions and non-thermal electron effects during lower hybrid current drive in Petula B	628
Clement M., Ichtchenko G., Hess W. et al. Impurity generation and edge plasma effects during L.H.R. experiments in the Petula B tokamak	634
Nakash R., Gell Y. Stochastic generation of currents via beat - wave - lower - hybrid - wave interaction	641
Gomezano C., Hess W., Hoang G.T. et al. Ion heating with lower hybrid wave in the Petula-B tokamak	648
Cairns R.A., Lashmore-Davies C.N., Woods A.M. Mode conversions of lower hybrid waves	655
Succi S., Appert K., Muschietti L. et al. Dependence of LH-generated currents on the spectral distribution of the RF source	661
Bers A., Hizanidis K., Hewett D.W. Solution of the relativistic 2-D Fokker-Planck equation for LH current drive	668
Bers A., Krapchev V.B., Hewett D.W. Analytic solution of the 2-D Fokker-Planck equation for LH current drive	674
Luckhardt S.C., Chen K.-I., Mayberry M.J. et al. Particle confinement during lower-hybrid current drive in the Versator II tokamak	680

Toi K., Ohkubo K., Kawahata K. et al.	
Plasma current start-up and drive by lower hybrid wave in the JIPP T-IIU tokamak	686
Kang Shou-Wan, Xia Meng-Fen	
Critical density effect for current driven by LH wave	694
Pericoli-Ridolfini V.	
The behaviour of the scrape-off plasma during the lower hybrid experiment in FT	698
Pericoli-Ridolfini V., Cesario R.	
Evidence of Pump spectral broadening and parametric decay instabilities in the RF heating experiment in FT	704
Tuccillo A.A., Buratti P., De Marco F. et al.	
Electron tail instabilities during LH heating in FT	709
Santini F., Barbato E., De Marco F. et al.	
Runaway electrons affected by anomalous Doppler resonance with lower hybrid waves launched in FT	714
Tonon G., Moulin D.	
Lower hybrid electron heating and current drive in large tokamaks: application to Tore Supra	721